

HP StorageWorks

Fabric OS 5.0.0 release notes

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Fabric OS 5.0.0 release notes

About this document

This section identifies the audience of these Release Notes and provides a high-level description of the information it contains.

Release Notes overview

These Release Notes cover the following major topics:

- [Accessing documentation](#), page 4
- [Standards compliance](#), page 5
- [Important notes](#), page 6
- [Documentation updates](#), page 10

Audience

These Release Notes are intended for systems administrators and technicians who are responsible for installing, operating, and maintaining Fabric OS version 5.0.0 and the Brocade 4Gb SAN Switch for HP p-Class BladeSystem (SAN Switch).

Technical support

Contact Hewlett-Packard support for hardware, firmware, and software support, including product repairs and part ordering. To assist your support representative and to expedite your call, have the following information available:

- Technical support contact number, if available
- Switch model
- Switch operating system version
- Error messages received
- Output from `supportshow` command
- Detailed problem description and specific questions
- Description of any troubleshooting steps already performed and results

World Wide Name (WWN)

Use the `licenseIdShow` command to display the license ID.

Accessing documentation

Additional documentation, including white papers and best practices documents, is available at the HP web site: <http://welcome.hp.com/country/us/eng/prodserv/storage.html>.



NOTE: HP has made every effort to provide you with the most up-to-date Web retrieval procedures available at time of print. Note, however, that Web page links are subject to change.

To access the technical documentation:

1. Locate the **Networked storage** section of the Web page.
2. Under **Networked storage**, locate the **By type** subsection.
3. Click **SAN infrastructure**. The **SAN infrastructure** page displays.
4. Locate the **Fibre Channel Switches** section.
5. Locate the **B-Series Fabric** subsection.
6. Click the name of the appropriate switch. The switch overview page displays.
7. Locate the **Product information** section.
8. Click **Technical documents**. Select the applicable documents.

For information about Fibre Channel standards, visit the following web site: <http://www.t11.org>.

Standards compliance

HP products conform to these standards in a manner consistent with accepted engineering practices and procedures. In certain cases, HP may add proprietary supplemental functions to those specified in the standards. We verify conformance with Fibre Channel Standards by subjecting our switches to SANmark Conformance Tests developed by the Fibre Channel Industry Association. Our switches have earned the SANmark logo indicating such conformance. SANmark is a limited testing program and does not test all standards or all aspects of standards.

HP Fabric OS 5.0.0 conforms to the following Fibre Channel Standards:

- FC-AL ANSI X3.272: 1996
- FC-AL-2 INCITS 332: 1999
- FC-GS-4 ANSI INCITS 387: 2004 (includes the following)
 - FC-GS-2 ANSI INCITS 288: 1999S
 - FC-GS-3 ANSI INCITS 348: 2001
- FC-SW-3 INCITS 384: 2004 (includes the following)
 - FC-SW INCITS 321: 1998
 - FC-SW-2 INCITS 355: 2001
- FC-VI INCITS 357: 2002
- FC-TAPE INCITS TR-24: 1999
- FC-DA INCITS TR-36: 2004 (includes the following)
 - FC-FLA INCITS TR-20: 1998
 - FC-PLDA INCIT S TR-19: 1998
- FC-SP Rev 1.7 (Under Development)
- FC-MI INCITS/TR-30: 2002
- FC-MI-2 Rev 2.56 (Under Development)
- FC-PI INCITS 352: 2002
- FC-PI-2 INCITS 404: 2005
- FC-FS INCITS 373: 2003 (includes the following)
 - FC-PH ANSI X3.230: 1994

- FC-PH-2 ANSI X3.297: 1997
- FC-PH-3 ANSI X3.303: 1998
- FC-BB-2 INCITS 372: 2003
- FC-SB-3 INCITS 374: 2003 (Replaces FC-SB ANSI X3.271: 1996; FC-SB-2 INCITS 374: 2001)
- RFC 2625 IP and ARP Over FC
- RFC 2837 Fabric Element MIB
- MIB-FA INCITS TR-32: 2003
- FCP-2 INCITS 350: 2003 (Replaces FCP ANSI X3.269: 1996)
- SNIA Storage Management Initiative Specification (SMI-S) Version 1.02 (ANSI INCITS 388: 2004)
- SNIA Storage Management Initiative Specification (SMI-S) Version 1.1 (Draft)

Important notes

This section provides information you should be aware of when running Fabric OS 5.0.0.

Switch overview

Fabric OS 5.0.0 supports a new embedded platform, the Brocade 4Gb SAN Switch for HP p-Class BladeSystem (SAN Switch). The SAN Switch can only be operated by using Fabric OS 5.0.0. The SAN Switch provides four external ports that can autonegotiate 1-Gbit/sec, 2-Gbit/sec, and 4-Gbit/sec speeds.

Fabric OS 5.0.0 includes all basic StorageWorks B-Series switch and fabric support software, as well as optionally licensed software that is enabled via license keys. It comprises two major software components: firmware, which initializes and manages the switch hardware, and diagnostics.

OS requirements

HP recommends using the *latest* firmware release versions to get the greatest benefit from the SAN. Refer to the following web site for information: <http://www.hp.com>

SAN Switch platform support

The SAN Switch has the following characteristics:

- Passive air cooling
- 256 MB compact flash
- Eight internal 2 Gb/sec FC server Blade ports (2 Gb/sec default speed) with the following characteristics:
 - Automatic negotiation to the highest common speed of all servers connected to port
 - Universal and self-configuring ports, which are capable of becoming an F_Port (fabric enabled) or FL_Port (fabric loop enabled)
- Four external 1/2/4 Gb/sec FC small form-factor pluggable (SFP) ports, with the following characteristics:
 - Automatic negotiation to the highest common speed of all devices connected to port
 - Port interface-compatible SFP transceivers, both short wavelength (SWL) and long wavelength (LWL)
 - Universal and self-configuring ports, which are capable of becoming an F_Port (fabric enabled), FL_Port (fabric loop enabled), or E_Port (expansion port)
- One RS-232 mini serial port, designed to connect to a Data Terminal Equipment (DTE) port
- One 10/100 Mb/sec Ethernet port with an RJ-45 connector
- The following light-emitting diodes (LEDs):
 - Power status
 - Switch status
 - Ethernet status
 - Port status and port speed for each port
- Voltage monitoring
- Temperature monitoring
- Real-time clock
- Manufacturing SEEPROM
- SFP port monitoring
- 3.3V power supplied and controlled by the installed Interconnect switch

- Identification to HP chassis management via HP specified SEEPROMs
- Dynamic path selection (DPS) with the exchange-based and device-based policies. The SAN Switch uses the exchange information to determine the routing paths dynamically.

Reliability

Fabric OS 5.0.0 features RSCN suppression which is the ability to control RSCNs that originate from hosts on a port-by-port basis.

Problem determination

Fabric OS 5.0.0 features the FcPing command which provides the ability to check Fibre Channel connectivity between any two nodes in a fabric.

Security-related enhancement

A new role-based access control role, switch administrator, allows an administrator to control a switch without modifying fabric-wide configurations, such as zones or fabric-wide parameters.

Long-distance enhancements

Table 1 provides the maximum distances available on E_Ports when the four external E_Ports are available for long-distance connections. Note that these distances would be achieved under ideal circumstances; actual maximum distances might be lower for a given distance and port speed.

Table 1 Long distance maximums

Speed (Gbit/sec)	Number of ports allowed at distance (km)			
	1 port	2 ports	3 ports	4 ports
4	79.5	42.5	30.15	24
2	159	85	60.3	48
1	318	170	120.6	96

Other notes

Table 2 lists other important information you need to know to run Fabric OS 5.0.0.

Table 2 Important information

Fabric OS area	Description
Upgrade	Prerelease versions of this firmware may not support hot code activation. Therefore, if you are upgrading from a prerelease version of the firmware to v5.0.0, you will have to reboot the switch for the new version to take effect.
PKI certificates	<p>A PKI Certificate is not included as part of this version of the installed Secure Fabric OS. If you wish to activate Secure Fabric OS on a supported director or switch, you must obtain a PKI certificate from www.hp.com.</p> <p>Refer to the <i>HP StorageWorks Secure Fabric OS 5.0.0 user guide</i> for information to obtain certificates.</p>

Documentation updates

The *HP StorageWorks Fabric OS 5.0.0 addendum* is new to the switch documentation set and lists all changes to the standard switch documentation set. The user and reference guides for OS 4.x are identical in content to OS 5.0.0 unless noted otherwise in the addendum. These same changes are listed in Chapter 1 of each guide in a section entitled "Changes to this guide for OS v5.0.0."